

**2014**

**M.Sc.**

**3rd Semester Examination**

**BIOCHEMISTRY**

**PAPER—BIC-304**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**(Molecular Virology)**

**Group—A**

1. Answer any *five* questions from the following :     2×5
  - (a) State some importance of spikes in life cycle of virus.
  - (b) What is '–' strand RNA and segmented genomae? Where are they found?
  - (c) Which characteristics one should consider during classification of virus?

*(Turn Over)*

- (d) What advantages would an RNA virus gain by having its genome resemble to eukaryotic mRNA?
- (e) What is Cis-trans tests? State its significance.
- (f) What do you mean by deletion mapping?
- (g) What are Retro transposons?
- (h) What is subunit Vaccine?

### Group—B

Answer any *two* questions from the following :      5×2

2. How virus are useful tool in genetic manipulation in eukaryotic system? Write few strategies of targets for anti viral drug.  
2+3
3. What in terminal redundancy? How is it useful in T<sub>4</sub> assembly? How this phage initiate its infection?  
1+2+2
4. Briefly mention the mechanism of attack of HIV and along with information of disease.      5
5. Name five plant or animal viruses along with the naming the host species of each. Discuss the mechanism of invasion of at least one virus.  
5

**Group—C**

Answer any two questions from the following : 10×2

6. (a) Is  $T_4$  viral replication how unique pyrimidine is formed and state its role in the protection of viral DNA from attack by host-restriction enzyme. 5
- (b) Briefly describe the composition of viral envelops. 5
7. (a) Define and mention the functions of interferon in host defense mechanism, why the IFN genes are not expressed in normal cell? 5
- (b) What is Teratogenesis? Give an idea about teratogen. 5
8. (a) Show how the enzyme reverse transcriptase helps some '+' strand RNA virus in their reproduction. 6+4
- (b) Discuss about various associated enzymes.
9. (a) Propose possible mechanism that how double stranded RNA virus get replicates. 6+1+3
- (b) What is transgene? Discuss the application process of caulimo virus in plant transgenesis.